

Appl. Serial No.: 10/757,754
Amdt. dated Aug. 25, 2005
Reply to Office Action of May 25, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

Claim 1 (currently amended): A tomography scanner system, comprising:

a base;

a gantry supported on the base and including,

an outer, non-rotating support ring, and

an inner rotatable component ring supported for rotation on the support ring about a rotation axis of the gantry;

an annular main body adapted for attachment to the inner rotatable component ring, the annular main body defining a source aperture and a detector aperture, wherein the source aperture is diametrically opposed on the annular main body from the detector aperture;

an x-ray source and an x-ray detector array secured to the annular main body rotatable component ring for rotation with the annular main body component ring;

an x-ray containment shield enclosing the x-ray source and the x-ray detector array and secured to the rotatable component ring for rotation with the component ring;

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a first, non-rotating x-ray containment tunnel extending from an open end to the rotating x-ray containment shield coaxial with the rotation axis of the gantry, and a second, non-rotating x-ray containment tunnel extending from the rotating x-ray containment shield to an open end coaxial with the rotation axis of the gantry; and

a continuous conveyor belt including a forward path extending through the tunnels and the gantry and a return path extending outside the tunnels and the gantry.

Claim 2 (original): A tomography scanner system according to claim 1, wherein the component ring includes a mounting face extending perpendicular to the rotation axis and the x-ray source, the x-ray detector array and the x-ray containment shield are secured to the mounting face of the component ring.

Claim 3 (original): A tomography scanner system according to claim 1, wherein a motor is mounted on the support ring and operatively connected to the component ring through a belt received in an outer circumferential groove of the component ring.

Claim 4 (previously presented): A tomography scanner system according to claim 1, wherein the x-ray source is a dual energy x-ray source.

Claim 5 (previously presented): A tomography scanner system according to claim 1, wherein the x-ray detector is a two dimensional x-ray detector array.

Claim 6 (original): A tomography scanner system according to claim 1, further comprising a data acquisition system for receiving and processing signals generated by the detector array, and an x-ray tube control system for supplying power to, and controlling the operation of, the x-ray source.

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Claim 7 (original): A tomography scanner system according to claim 6, further comprising a computer for processing the output of the data acquisition system and for generating the necessary signals for operating and controlling the system.

Claim 8 (original): A tomography scanner system according to claim 1, wherein the rotating x-ray containment shield is lined with a material absorbent of x-ray energy incident.

Claim 9 (original): A tomography scanner system according to claim 8, wherein the material absorbent of x-ray energy incident comprises lead.

Claim 10 (canceled)

Claim 11 (previously presented): A tomography scanner system according to claim 1, wherein the tunnels are lined with a material absorbent of x-ray energy incident.

Claim 12 (original): A tomography scanner system according to claim 11, wherein the material absorbent of x-ray energy incident comprises lead.

Claim 13 (previously presented): A tomography scanner system according to claim 1, wherein the open ends of the x-ray containment tunnels include curtains of x-ray absorbent material.

Claim 14 (previously presented): A tomography scanner system according to claim 1, wherein the non-rotating x-ray containment tunnels are connected to the rotatable x-ray containment shield through non-rotating fixed rings, wherein the x-ray containment shield is rotatable with respect to the fixed rings.

Claim 15 (original): A tomography scanner system according to claim 14, wherein the

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non-rotating fixed rings include x-ray absorbent material.

Claim 16 (currently amended): A tomography scanner system according to claim 1, ~~wherein the rotating x-ray containment shield includes an annular main body defining diametrically opposed x-ray source and x-ray detector apertures, and further comprising an x-ray source housing positioned over the x-ray source aperture and supporting and containing the x-ray source, and an x-ray detector housing positioned over the x-ray detector aperture and supporting and containing the x-ray detector.~~

Claim 17 (original): A tomography scanner system according to claim 1, wherein the rotating x-ray containment shield comprises sheet metal lined with lead sheeting.

Claim 18 (canceled)

Claim 19 (previously presented): A tomography scanner system according to claim 1, wherein the continuous conveyor belt is supported by pulleys and at least one motor for rotating the pulleys to move the conveyor belt.

Claim 20 (canceled)

Claim 21 (previously presented): A tomography scanner system according to claim 19, further comprising skid plates extending between the pulleys and supporting the conveyor belt.

Claim 22 (original): A tomography scanner system according to claim 21, wherein the skid plates include grooves which slidingly receive ridges of the conveyor belt.

Claim 23 (original): A tomography scanner system according to claim 21, wherein the

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skid plates include ridges slidingly received in grooves of the conveyor belt.

Claim 24 (original): A tomography scanner system according to claim 19, wherein the pulleys include grooves which receive ridges of the conveyor belt.